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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/718,313	11/20/2003	Robert A. Armbruster	GEHA 8578 US	9763

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EXAMINER

ARTHUR JEANGLAUDE, GERTRUDE

ART UNIT	PAPER NUMBER
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3661

DATE MAILED: 11/22/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/718,313

Applicant(s)

ARMBRUSTER ET AL.

Examiner

Gertrude Arthur-Jeanglaude

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-29 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-29 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 20 November 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>7/29/04</u> . | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claims 1-29 are presented for examination.

Claim Objections

Claim 22 is objected to because of the following informalities: the phrase "Belong with the claim 18 set of claims?" at the end of the claim should be removed.

Appropriate correction is required.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

Claim 26 is rejected under 35 U.S.C. 102(b) as being anticipated by Jaekle (U.S. Patent No. 4,037,526).

As to claim 26, Jaekle disclose a method of configuring a locomotive in a train
In preparation for exit of the locomotive from a tunnel comprising: determining the current operating condition of the locomotive while in the tunnel; determining a desired set of operating conditions for the locomotive as the train exits the tunnel to facilitate recovery of the locomotive from the effects of passage through the tunnel and attain a desired post-tunnel configuration as quickly as possible upon exiting the tunnel (See col. 2, lines 8-68); determining the time or distance for the locomotive to reach the exit from the tunnel (See col. 3, lines 56-68); and changing the performance characteristics

of the locomotive to attain the desired set of operating conditions within the time or distance for the locomotive to reach the tunnel exit (See col. 4, lines 1-41).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-25, 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Jaekle et al. (U.S. Patent No. 4,037,526) in view of Bessler et al. (U.S. Patent No. 5,561,602).

As to claims 1, 17, Jaekle disclose a method of controlling passage of a train employing a plurality of locomotives through a tunnel (as shown in Fig.1) so as to meet a movement plan, the method comprising: configuring predetermined operating characteristics of at least one selected locomotive (18) in the train in preparation for the passage of the train through the tunnel as the train approaches an entrance to the tunnel; monitoring conditions within the tunnel and the performance of the selected locomotive as the train passes through the tunnel, including dynamically changing the configuration of the operating characteristics of the selected locomotive as a function of the monitored conditions within the tunnel and the performance of the selected locomotive while in the tunnel,; and reconfiguring the operating characteristics of the selected locomotive as the train approaches the exit of the tunnel to facilitate recovery of the selected locomotive from the effects of passage through the tunnel (See col. 2,

lines 8-68). Jaekle et al. fails to specifically disclose to achieve tractive effort sufficient to move the train through the tunnel in accordance with the plan and to optimize the performance of the locomotive. In an analogous art, Bessler et al. disclose achieve tractive effort sufficient to move the train through the tunnel in accordance with the plan and to optimize the performance of the locomotive (See col. 3, lines 33-38; Fig.2 traction motors). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Jaekle et al. with that of Bessler et al. by having a tractive effort sufficient to move the train through the tunnel in order to control normal operation mode and a tunnel operation mode.

As to claims 2, 18, Jaekle discloses dynamically changing the configuration of the selected locomotive as the train approaches, passes through, and exits the tunnel (See col. 2, lines 44-58).

As to claim 3, Jaekle discloses the location of the train relative to the exit from the tunnel (as it monitors the movement of the train during travel ; see col. 4, lines 14-22) and configuring the selected locomotive for recovery from passage through the tunnel prior to the locomotive reaching the tunnel exit (See col. 4, lines 20-41).

As to claim 4, Jaekle discloses a method of configuring a locomotive in preparation for passage of a locomotive for passage through a tunnel comprising: determining the current operating condition of the locomotive; establishing a desired set of operating conditions for entry of the locomotive into the tunnel (See col. 2, lines 8-68); determining the time or distance for the locomotive to reach the tunnel entrance; and changing the performance characteristics of the locomotive to attain the desired set of

operating conditions within the time or distance for the locomotive to reach the tunnel entrance (See col. 3, lines 56-68-col. 4, lines 1-41).

As to claim 5, Jaekle discloses the locomotive is one of a plurality of locomotives comprising a consist and the method includes changing the operating conditions each locomotive in the consist to a desired set thereof prior to each locomotive reaching the tunnel entrance (See col. 1, lines 29-48).

As to claim 6, Jaekle discloses dynamically changing the operating conditions of the locomotives to attain the desired set of operating conditions for each locomotive (See col. 2, lines 8-68).

As to claims 7, 27, Jaekle et al. disclose the locomotive comprises an engine and locomotive with fresh cool air (see col. 2, lines 49-54) but fails to specifically disclose a cooling system, and traction motors having cooling systems, and in which the desired set of operating conditions for each locomotive includes at least one of the power rating of the locomotive engine, the temperature of the engine cooling system, the temperature of the locomotive traction motor cooling systems, and the tractive effort of other locomotives in the consist. In an analogous art, Bessler et al. (US 5,561,602) disclose traction motors in Fig.2 and cooling systems as shown in Fig. 3 and power rating (See col. 1, lines 9-24; col. 3, lines 33-38; col. 4, lines 33-40; col. 6, lines 60-67-col7, lines 1-5). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Jaekle with that of Bessler et al. by having a cooling system in the engine and traction motors and power rating in each locomotive in order to avoid thermal shock.

As to claims 8-10, 28, Jaekle et al. disclose the controller but fails to specifically disclose that adjusting the performance of each locomotive is controlled by a computer on each locomotive. In an analogous art, Bessler et al. disclose a computer (See col. 5, lines 40-45) for controlling and adjusting the performance of each of the locomotive. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Jaekle et al. with that of Bessler et al. by having a controller or computer for controlling each locomotive in order to monitor control signals for a railroad train transiting a tunnel.

As to claim 11, Jaekle disclose determining the time or distance of the locomotive relative to the tunnel entrance includes monitoring a wayside distance signal provided to the locomotive (See col. 5, lines 56-68).

As to claim 12, Jaekle discloses all but fails to specifically disclose a GPS information to the locomotive. In an analogous art, Bessler et al. disclose a GPS (See col. 5, lines 30-39) that provides GPS information to the locomotive. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Jaekle with that of Bessler et al. by having a GPS since it would allow one to determine desired distance and time from a tunnel.

As to claims 13, 29, Jaekle disclose all but fails to specifically disclose determining the time or distance of the locomotive relative to the tunnel entrance includes accessing a track map database stored on the locomotive, the database including information on anticipated conditions within the tunnel. In an analogous art, Bessler et al. disclose entrance and track map database (considered as controller 18)

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storing information on locomotives including conditions within the tunnel (See col. 5, lines 40-65). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Jaekle with that of Bessler et al. by storing information on a database in order to control the tunnel operation mode.

As to claims 14, 24, Jaekle disclose all but fail to specifically disclose configuring each locomotive for passage through the tunnel includes derating at least one of the locomotives by reducing its power output from a nominal level of operation. In an analogous art, Bessler et al. disclose derating function and reducing power (see col. 6, lines 33-51). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Jaekle with that of Bessler et al. by storing information on a database in order to control the tunnel operation mode.

As to claim 15, Jaekle disclose all but fails to specifically disclose the locomotive is in an idle condition. In an analogous art, Bessler et al. disclose the locomotive is in an idle condition when the controller shuts off the blowers 64 (See col. 6, lines 17-32). Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Jaekle with that of Bessler et al. by having the locomotive in an idle condition in order to control operation within the tunnel.

As to claim 16, Jaekle disclose an engine but fails to specifically disclose a cooling system of the engine. In an analogous art, Bessler et al disclose an engine having a cooling system lower oil and water temperatures (See col. 4, lines 33-47). It would have been obvious to one of ordinary skill in the art at the time of the invention to

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modify the system of Jaekle with that of Bessler et al. by having a cooling system of the engine in order to control operation within the tunnel.

As to claims 19-21, Jaekle disclose the monitoring of air flow to air temperature (fresh cool air) and a level of oxygen (reduce oxygen) (See col. 1, lines 5-10; col. 2, lines 20-38) within the tunnel.

As to claim 22, Jaekle discloses ambient temperature (considered as fresh cool air) which occurs when the locomotive enters the tunnel whereby the locomotive can be configured for passage through the tunnel even the entrance to the tunnel cannot be determined prior to the locomotive entering the tunnel (see col. 2, lines 44-58).

As to claim 23, Jaekle discloses all but fails to specifically disclose monitoring the performance of each trailing locomotive includes measuring the tractive effort of each locomotive. In an analogous art, Bessler et al. disclose measuring the tractive effort of each locomotive (See col. 3, lines 29-36). It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Jaekle with that of Bessler et al. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Jaekle et al. with that of Bessler et al. by having a tractive effort sufficient to move the train through the tunnel in order to control normal operation mode and a tunnel operation mode.

As to claim 25, Jaekle discloses dynamically changing the operation of a trailing locomotive includes adjusting locomotive operating characteristics as a function of at least one of air flow (See col. 2, lines 44-58).

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Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Gertrude Arthur-Jeanglaude whose telephone number is (571) 272-6954. The examiner can normally be reached on Monday-Friday from 8:30 a.m. to 6:00 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Thomas Black can be reached on (571) 272-6956. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

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November 8, 2005

Gertrude A. Jeanglaude
GERTRUDE A. JEANGLAUDE
PRIMARY EXAMINER